



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/594,733

04/05/2007

Hiroshi Shibaoka

06172

5777

23338 7590 03/09/2011
DENNISON, SCHULTZ & MACDONALD
1727 KING STREET
SUITE 105
ALEXANDRIA, VA 22314

EXAMINER

STEELE, JENNIFER A

ART UNIT

PAPER NUMBER

1798

MAIL DATE

DELIVERY MODE

03/09/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/594,733	Applicant(s) SHIBAOKA ET AL.	
	Examiner JENNIFER STEELE	Art Unit 1798	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn. During the Interview with Applicant on 2/28/2011 Examiner indicated that the Final Rejection of 9/30/2010 was improper as the reference to Fukunishi is not prior art. A new grounds of rejection is set forth in this Office Action.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1. Claim 1-3, 7, 12 and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over Akamatsu et al (US 5,273,813) in view of Vogt (US 6,824,819).

Claim 1 describes A bag made of a downproof fabric comprising a polyester fabric having

Art Unit: 1798

- a total cover factor of not lower than 1600 and
- a mass per unit area of not higher than 45 gsm
- the fabric being heat treated by calendaring,
- wherein said polyester fabric is composed of
 - polyester multifilament A yarns having a total fineness of not higher than 25 dtex and a single yarn fineness of not higher than 2.0 dtex and
 - multifilament B yarns having a total fineness of not lower than 35 dtex
- wherein the arrangements of the respective yarns in the warp and weft directions are such that the yarn constitution ratio “B yarn/A yarn” is $\frac{1}{4}$ to $\frac{1}{20}$ (number of yarns to number of yarns ratio) and
- wherein the A yarn to B yarn pitches are not longer than 7 mm.

Akamatsu is directed to a fabric material that has high resistance to tearing and is useful for sporting goods utilizing wind pressure, for example, yacht sails, paragliders and hanggliders. Akamatsu teaches a woven fabric of polyester fibers wherein the basis weight is 20-100 gsm (ABST) and therefore encompasses embodiments in the claimed range of not higher than 45 gsm and it would have been obvious to produce a polyester fabric in the claimed basis weight range motivated to produce a lighter weight fabric.

Akamatsu teaches the polyester fibers have an individual fineness of 1.5 to 3.0 deniers, which is equivalent to 1.65 to 3.3 dtex. A dtex of 1.65 is within the claimed

Art Unit: 1798

range of less than 2.0 dtex. Akamatsu teaches a multifilament polyester yarn is made from the fine fibers. Akamatsu teaches the multifilament polyester yarn can be 20 denier (col. 12, lines 40), which is equivalent to 22 dtex and in the claimed range of less than 25 dtex.

Akamatsu teaches the polyester fabric is woven in a structure (col. 11 and 12) of warp and weft yarns densities of 150 yarns/ 25.4 mm with a 20 denier multifilament yarn. The weaving structure has 20 polyester multifilament yarns having a denier of 20 (referred to as thin yarns) / a thick yarn which is composed of doubled three 20, 40 or 75 denier yarns / 2 thin yarns / 1 thick yarn. The thin yarn is equated with the claimed multifilament A yarn of less than 25 dtex. The thick yarn has a fineness of three 20 denier yarns that are doubled which is a total denier of 120 denier or 132 dtex. The thick yarn is equated with the claimed multifilament B yarn of fineness not lower than 35 dtex.

Akamatsu's weaving pattern has 2 thick yarns for every 22 thin yarns which within the claimed ratio of 1-B yarn to 4-A yarns and 1-B yarn to 20-A yarns.

Akamatsu teaches there are 150-20 denier yarns per 25.4 mm. For the pattern of 20 thin yarns to 1 thick yarn, 20 thin yarns would occupy a width of 3.4 mm ($20/150 * 25.4$ mm). Therefore there would be a B yarn or thick yarn, every 3.4 mm and this structure is in the claimed range where the A yarn to B yarn pitches are less than 7 mm.

Akamatsu differs and does not teach the property of cover factor. Using the cover factor formula disclosed in Applicant's specification and the embodiment shown in col. 11 and 12 of Akamatsu, the calculated cover factor is about 1680 in one

Art Unit: 1798

embodiment. Akamatsu teaches the 3-20 denier yarns that are combined to make the thick yarn are also doubled. This would result in a 120 denier yarn. The cover factor of 1680 is calculated for the embodiment of 20 - 20 denier yarns + 1-120 denier yarn + 2-20 denier yarns + 1-120 denier yarns is 1680 and in the claimed range.

Akamatsu differs and does not teach a bag and does not teach the fabric has the property of being downproof.

Akamatsu differs and does not teach the fabric is calendered.

Vogt is directed to a down-proofed metalized fabric (Title). The fabric is a durable, lightweight fabric which can be used as a lining for insulating articles and which is resistant to migration of insulating materials through its thickness (col. 2, lines 23-27). Insulating materials are feathers, down and synthetic materials (col. 6, lines 8-10). The fabric is used for cold weather garments, pillows, sleeping bags, comforters and disposable industrial garments (col. 6, lines 1-2). Vogt teaches a bag and the bag is downproof or resistant to down penetrating through the fabric.

Vogt teaches any type of fabric can be used but prefers a plain weave construction and made from fibers such as polyester (col. 3, lines 13-20).

Vogt teaches the fabric can be calendered to an extent sufficient to reduce the migration of insulation through its thickness.

It would have been obvious to one of ordinary skill in the art to produce a fabric that is a downproof bag and calendered motivated to reduce the permeability of insulating materials such as down through the fabric. It further would have been

Art Unit: 1798

obvious to employ the fabric is in the form of a bag motivated to produce a sleeping bag that utilizes down and is downproof.

As to claim 2, Akamatsu teaches the B yarns are doubled A yarns (col. 8, lines 60-64). As Applicant defines parallel yarns as double, triple or quadruple yarns [0028]. The doubled A yarns are equated with paralleled B yarns claimed.

As to claims 3 and 7, Akamatsu teaches the properties of higher tear strength and lower air permeability is desirable. Akamatsu presents tear strength and air permeability values for the woven fabric in Table 4. Examples 21 and 22 employ the same yarn size and pattern as claimed. The tear strengths of Examples 21 and 22 are 1.72 and 2.00 kg which is equivalent to 17-19 N and in the claimed range of not lower than 7 N. The air permeability is 0.25 to 0.3 ml/cm²/sec which are in the claimed range of not higher than 1.2 ml/cm²/sec.

As to claim 12, Akamatsu differs and does not teach calendaring the fabric.

Vogt teaches calendaring the fabric reduces the migration of insulation through its thickness. Vogt does not teach the calendaring fills the interstitial spaces in the fabric. As Vogt teaches calendaring as claimed it is presumed the process would inherently produce the same structure as claimed. As Vogt teaches calendaring reduces the migration of insulation material, one of ordinary skill in the art would presume that the interstices between the woven filaments would be made smaller by the process of calendaring. It would have been obvious to one of ordinary skill in the art at the time the invention was made to calendar the fabric motivated to fill the interstitial spaces and prevent the migration of down through the fabric.

As to claim 13, Akamatsu in view of Vogt do not measure the softness of the fabric. As the combination of Akamatsu in view of Vogt have the same structure and materials and produced by substantially the same process as claimed it is presumed that the property of softness is inherent or obvious over the prior art. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in *In re Fitzgerald*, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112- 2112.02

2. Claim 6 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Akamatsu et al (US 5,273,813) in view of Vogt (US 6,824,819) and in further view of Gamble (US 3,071,783).

As to claims 6 and 10, Akamatsu differs and does not teach the fabric has the structure of a bag with a warm retaining mass packed in the bag. Vogt teaches a down-proofed fabric that is useful for lining insulated articles which resist the migration of insulating materials through its thickness. Vogt teaches a sleeping bag. Vogt does not specifically teach the structure of a bag and a warmth retaining mass packed in said bag. The insulating materials of Vogt are equated with a warmth retaining mass. One of ordinary skill in the art would know that a sleeping bag is produced from a quilted structure where the fabric encases an insulating material as claimed. Further reference to Gamble is present to show that the claimed structure is known in the art.

Gamble teaches a quilted cushioning article where the insulating or cushioning materials are filled into a casing fabric and the casing fabric is stitched along lines 20 shown in Fig. 3. Figure 3 is the plan view of a quilted article formed by covering the article of Fig. 1 on opposite faces with a fabric 18 and stitching the assembly together along lines 20 outlining squares about 3 inches on a side. There is provided a filling material in the form of a batt. The quilted squares are filled with an insulating material. Gamble teaches a filling material of polyester batt however Gamble teaches known insulating materials are down or feathers. Gamble presents a finding that one of ordinary skill in the art can fill a fabric with a warm retaining material.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce an insulation filled fabric in the form of a stitched or quilted bag, motivated to produce an insulating material for clothing or sporting goods.

3. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over Akamatsu et al (US 5,273,813) in view of Vogt (US 6,824,819) and in further view of Hirakawa et al (US 4,582,747).

As to claim 11, Akamatsu in view of Vogt are silent with respect to the thickness of the fabric.

Hirakawa is directed to a dust proof fabric. The fabric has a thickness of 0.05 mm to 0.4 mm. If the thickness is smaller than 0.05 mm, the fabric is too thin and has a tendency to tear (col. 5, lines 28-35). The fabric is in the form of a woven fabric selected from weaves of plain, twill and satin weaves (col. 5, lines 57-66). The air

Art Unit: 1798

permeability of the fabric is about 0.2 to about 0.3 cc/cm²/sec (col. 8, lines 55-59). As the fabric is dust proof, it is presumed that the fabric would also be down proof.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to produce a fabric with the claimed thickness motivated to produce a strong, yet down proof fabric.

Response to Arguments

4. Applicant's amendments and arguments with respect to claims 1-3, 6, 7, 10 and 11 have been considered but are moot in view of the new ground(s) of rejection. Examiner withdrew the finality of the Office Action of 9/30/2010 as the reference to Fukunishi is not prior art. Applicant perfected the priority to the foreign application filing date of 3/31/2004 by filing an English translation in addition to a statement to certify that the document is true and correct translation of Japanese Patent Application JP 2004-107407 on 9/17/2009. As a result the rejection over Akamatsu in view of Fukunishi is withdrawn. A new 35 USC 103 grounds of rejection over Akamatsu in view of Vogt and Akamatsu and in further view of Gamble and Hirakawa is presented in this office action. The burden of proof is on the Applicant to show that the claimed invention produces an unexpected result over Akamatsu and Vogt. Applicant's specification provides detailed results of the invention and comparative examples in Tables 2 and 3 of the specification. The results appear to show that the variables have been optimized to produce the claimed properties of air permeability and strength utilizing a low basis weight and fine fibers. However the data is not commensurate with the scope of the

Art Unit: 1798

claims. Whereas Applicant has claimed the A-to-B yarns pitches are not longer than 7 mm, the data in the tables refers to yarn density and not pitches. Akamatsu teaches a yarn density of 150 yarns/2.5 cm which is lower than the examples produced in the specification. For example comparative examples 3 and 8 have lower yarn densities of 162/145 and 176/154 respectively and these fabrics do not meet the properties of air permeability. In addition, both Akamatsu and Vogt teach a coated fabric and while Applicant has not claimed a coated fabric the claims do not exclude a coating that improves downproofness.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JENNIFER STEELE whose telephone number is (571)272-7115. The examiner can normally be reached on Office Hours Mon-Fri 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Ortiz can be reached on (571) 272-1206. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1798

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. S./
Examiner, Art Unit 1798

/Angela Ortiz/
Supervisory Patent Examiner, Art
Unit 1798

3/3/2011